Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Previously presented) An isolated origin of replication functional in *Fusobacterium nucleatum* that comprises at least two copies of an iteron, the iteron comprising a nucleic acid sequence of SEQ ID NO:3.

2. (Original) The isolated origin of replication of claim 1, wherein the isolated origin of replication comprises two to six copies of the iteron.

3. (Original) The isolated nucleic acid of claim 1, wherein the isolated origin of replication comprises a nucleic acid sequence of SEQ ID NO:4.

4. (Previously presented) The isolated nucleic acid of claim 1, wherein the isolated origin of replication comprises a nucleic acid sequence of nucleotide position 3936 to 4481 of SEQ ID NO:6.

5. (Currently amended) ~~An isolated~~ nucleic acid encoding a RepA protein functional in *F. nucleatum*, wherein the nucleic acid:

(a) is separated from open reading frames that flank the nucleic acid as found in its native state, and

~~(a)~~ (b) ~~encoding~~ the nucleic acid encodes a protein that ~~comprising~~ comprises greater than about ~~80%~~ 90% amino acid sequence identity to SEQ ID NO:1~~; or~~

~~(b) encoding a protein that is selectively bound by polyclonal antibodies generated against SEQ ID NO:1~~.

6. (Currently amended) The ~~isolated~~ nucleic acid of claim 5, wherein the nucleic acid encodes a polypeptide comprising SEQ ID NO:1.

7. (Currently amended) The ~~isolated~~ nucleic acid of claim 5, wherein the nucleic acid encodes a polypeptide having a molecular weight of about 44.8 kDa.

8. (Currently amended) The ~~isolated~~ nucleic acid of claim 5, wherein the nucleic acid is from *F. nucleatum*.

9. (Currently amended) The ~~isolated~~ nucleic acid of claim 5, wherein the nucleic acid ~~has a sequence of~~ comprises SEQ ID NO:2.

10. (Previously presented) An isolated nucleic acid molecule comprising a 2.36 kb DNA fragment generated by cleavage of SEQ ID NO:6 with restriction endonucleases *Avr*II and *Sca*II.

11. (Original) An isolated nucleic acid molecule comprising a 0.9 kb DNA fragment generated by cleaving plasmid pFN2 with restriction endonucleases HincII and HpaII.

12. (Currently amended) An isolated RepA protein functional in *F. nucleatum*, the RepA protein comprising;

(a) greater than about ~~80%~~ 90% amino acid sequence identity to SEQ ID NO:1~~; or~~

~~(b) a protein that is selectively bound by polyclonal antibodies generated against SEQ ID NO:1~~.

13. (Previously presented) The isolated RepA protein of claim 12, wherein the the polypeptide comprises greater than about 97% sequence identity to SEQ ID NO:1.

14. (Previously presented) The isolated RepA protein of claim 12, wherein the polypeptide is SEQ ID NO:1.

15. (Previously presented) An isolated plasmid for replicating in *F. nucleatum*, the plasmid comprising an origin of replication that comprises at least two copies of an iteron, the iteron comprising the nucleic acid sequence of SEQ ID NO:3.

16. (Original) The plasmid of claim 15, wherein the origin of replication comprises between two to six copies of the iteron.

17. (Original) The plasmid of claim 15, wherein the origin of replication comprises a nucleic acid sequence of SEQ ID NO:4.

18. (Original) The plasmid of claim 15, the plasmid further comprising a marker gene.

19. (Original) The plasmid of claim 18, wherein the marker gene is an antibiotic resistance gene.

20. (Original) The plasmid of claim 15, wherein the origin of replication is recombinantly inserted into the plasmid.

21. (Currently amended) An isolated plasmid for replicating in *F. nucleatum*, the plasmid comprising a nucleic acid encoding a RepA protein functional in *F. nucleatum*, the nucleic acid:

(a) encoding a protein comprising greater than about ~~80%~~ 90% amino acid sequence identity to SEQ ID NO:1~~; or~~

~~(b) encoding a protein that is selectively bound by polyclonal antibodies generated against SEQ ID NO:1~~,

provided that the nucleic acid encoding the RepA protein is not SEQ ID NO:5.

22. (Previously presented) The plasmid of claim 21, wherein the nucleic acid encodes a polypeptide comprising SEQ ID NO:1.

23. (Previously presented) The plasmid of claim 21, wherein the nucleic acid comprises SEQ ID NO:2.

24. (Original) The plasmid of claim 21, the plasmid further comprising a marker gene.

25. (Original) The plasmid of claim 24, wherein the marker gene is an antibiotic resistance gene.

26. (Previously presented) The plasmid of claim 20, wherein a nucleic acid encoding an *F. nucleatum* RepA protein is recombinantly inserted into the plasmid.

27. (Currently amended) The plasmid of claim 15, the plasmid further comprising a nucleic acid encoding a RepA protein functional in *F. nucleatum*, the nucleic acid:

(a) encoding a protein that comprises greater than about ~~80%~~ 90% amino acid sequence identity to SEQ ID NO:1~~; or~~

~~(b) encoding a protein that is selectively bound by polyclonal antibodies generated against SEQ ID NO:1,~~

provided that the nucleic acid encoding the RepA protein is not SEQ ID NO:5.

28. (Previously presented) The plasmid of claim 27, wherein the nucleic acid encodes a polypeptide comprising SEQ ID NO:1.

29. (Previously presented) The plasmid of claim 27, wherein the nucleic acid comprises SEQ ID NO:2.

30. (Original) The plasmid of claim 27, the plasmid further comprising at least one marker gene.

31. (Original) The plasmid of claim 30, wherein the marker gene is an antibiotic resistance gene.

32. (Original) The plasmid of claim 27, the plasmid further comprising a transcription cassette comprising a nucleic acid of interest operably linked to a promoter.

33. (Currently amended) An isolated plasmid for replicating in *F. nucleatum*, the plasmid comprising a DNA fragment selected from the group consisting of:

~~(a)~~ a nucleic acid sequence of nucleotide position 3936 to 4481 of SEQ ID NO:6~~;~~,

~~(b)~~ a 2.36 kb DNA fragment generated by cleaving SEQ ID NO:6 with restriction endonucleases Avr II and ScaII~~; or~~, and

~~(c)~~ a 0.9 kb DNA fragment generated by cleaving plasmid pFN2, which is isolated from ATCC strain deposit number PTA-5816, with restriction endonucleases HincII and HpaII.

34. (Currently amended) An isolated plasmid designated pFN1 that has a ~~GenBank Accession No. AF159249~~ nucleotide sequence corresponding to SEQ ID NO:6.

35. (Currently amended) An isolated plasmid designated pFN2, which is isolated from ATCC strain deposit number PTA-5816, that has partial restriction maps as shown in Figure 1A, 3 and 5.

36. (Currently amended) An isolated plasmid designated pFN3, which is isolated from ATCC strain deposit number PTA-5815, that has a partial restriction map as shown in Figure 1A.

37. (Previously presented) A shuttle vector comprising an origin of replication functional in *Esherichia coli* and an origin of replication functional in *F. nucleatum*, wherein the origin of replication functional in *F. nucleatum* comprises at least two copies of an iteron comprised of SEQ ID NO:3.

38. (Original) The shuttle vector of claim 37, wherein the origin of replication functional in *F. nucleatum* comprises between two to six copies of the iteron.

39. (Original) The shuttle vector of claim 37, wherein the origin of replication functional in *F. nucleatum* comprises a nucleic acid sequence of SEQ ID NO:4.

40. (Previously presented) The shuttle vector of claim 37, wherein the origin of replication functional in *F. nucleatum* comprises a nucleic acid sequence of nucleotide position 3936 to 4481 of SEQ ID NO:6.

41. (Currently amended) The shuttle vector of claim 37, the vector further comprising a nucleic acid encoding a RepA protein functional in *F. nucleatum*, the nucleic acid:

(a) encoding a protein that comprises greater than about ~~80%~~ 90% amino acid sequence identity to SEQ ID NO:1~~; or~~

~~(b) encoding a protein that is selectively bound by polyclonal antibodies generated against SEQ ID NO:1~~.

42. (Previously presented) The shuttle vector of claim 41, wherein the nucleic acid encoding the RepA protein functional in *F. nucleatum* encodes a polypeptide comprising SEQ ID NO:1.

43. (Previously presented) The shuttle vector of claim 41, wherein the nucleic acid encoding the RepA protein for *F. nucleatum* comprises SEQ ID NO:2.

44. (Original) The shuttle vector of claim 41, the vector further comprising at least one marker gene.

45. (Original) The shuttle vector of claim 44, wherein the marker gene is an antibiotic resistance gene.

46. (Original) The shuttle vector of claim 41, wherein the vector comprises an ermF-ermAM cassette.

47. (Original) The shuttle vector of claim 41, the vector further comprising a transcription cassette comprising a nucleic acid of interest operably linked to a promoter.

48. (Original) A shuttle vector designated pHS17 (SEQ ID NO:15) that has a partial restriction map as shown in Figure 1A.

49. (Original) A host cell comprising the plasmid of claim 18.

50. (Original) The host cell of claim 49, wherein the host cell is *F. nucleatum*.

51. (Original) A host cell comprising the plasmid of claim 24.

52. (Original) The host cell of claim 51, wherein the host cell is *F. nucleatum*.

53. (Original) A host cell comprising the plasmid of claim 30.

54. (Original) The host cell of claim 53, wherein the host cell is *F. nucleatum*.

55. (Original) A host cell comprising the shuttle vector of claim 37.

56. (Original) The host cell of claim 55, wherein the host cell is *F. nucleatum*.

57. (Currently amended) The host cell of claim 55, wherein the host cell is *Echerichia coli*.

58. (Previously presented) A method of transforming *F. nucleatum* with the plasmid of claim 21, the method comprising:

contacting the plasmid with *F. nucleatum* in liquid media under conditions that allow the plasmid to be internalized by *F. nucleatum* and thereby, creating transformants.

59. (Previously presented) A method of transforming *F. nucleatum* with the plasmid of claim 15, the method comprising:

contacting the plasmid with *F. nucleatum* in liquid media under conditions that allow the plasmid to be internalized by *F. nucleatum* and thereby, creating transformants.

60. (Previously presented) A method of transforming *F. nucleatum* with the plasmid of claim 33, the method comprising:

contacting the plasmid with *F. nucleatum* in liquid media under conditions that allow the plasmid to be internalized by *F. nucleatum* and thereby, creating transformants.

61. (Previously presented) A method of transforming *F. nucleatum* with the plasmid of claim 27, the method comprising:

contacting the plasmid with *F. nucleatum* in liquid media under conditions that allow the plasmid to be internalized by *F. nucleatum* and thereby, creating transformants.

62. (Previously presented) A method of transforming *F. nucleatum* with the shuttle vector of claim 37, the method comprising:

contacting the plasmid with *F. nucleatum* in liquid media under conditions that allow the plasmid to be internalized by *F. nucleatum* and thereby, creating transformants.

63. (Currently amended) A method of transforming ~~*F. nucleatum*~~ *E. coli* with the shuttle vector of claim 37, the method comprising:

contacting the plasmid with ~~*F. nucleatum*~~ *E. coli* in liquid media under conditions that allow the plasmid to be internalized by ~~*F. nucleatum*~~ *E. coli* and thereby, creating transformants.